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### Sever Silvestru Dragomir

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**Abstract:** In this paper we have computed the  $\alpha-$ ,  $\beta-$  and  $\gamma-$  duals for a newly introduced class  $F(\Delta_v) = \{x = (x_k) : (v_k(x_k - x_{k+1})) \in F\}$ , where  $F$  be  $l_\infty$ ,  $c$  or  $c_0$ , and  $v = (v_k)$  be a sequence of nonzero complex numbers satisfying certain conditions, Necessary and sufficient conditions for a matrix  $A$  to map  $l_\infty(\Delta_v)$  or  $c(\Delta_v)$  into  $l_\infty$  or  $c$  are also obtained. The results of this paper generalise the corresponding results of Kizmaz [1]. Ali Sarigol [2] and others.

### P. Jeganathan

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### S. N. Mishra, S. L. Singh and V. Chadha

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**Abstract:** Following Grabiec's approach to Banach type fixed point theorem in fuzzy metric spaces, this paper obtains some new coincidences theorems for a family of mappings on an arbitrary set with values in a fuzzy metric space, and derives a few general fixed point theorems for a family of mappings on a fuzzy metric space. These fixed points type equations on product spaces.

### Jean-Claude Ndogmo

**Abstract:** Some properties of the invariant functions of the coadjoint representation of a solvable Lie algebra  $L$  over a field of Characteristic zero are given. In particular, their number and the restricted type of variables on which they depend are determined and it is shown that all the invariants are completely determined by some structure matrices.  $L$  is supposed to have an abelian nilradical  $NR$  such that the quotient algebra  $L/NR$  has dimension  $k \leq 2$ .

### Ismat Beg And Akbar Azam

**Abstract:** Some theorems concerning the construction of mixed points or generalized nonexpensive mappings on convex metric spaces are proved. Furthermore, convergence of sequence of iterates of compact operator in Banach spaces is also obtained. Our results generalize those of Kannan, Kirk, Ray and Rhoades and others.

### Ruggero Maria Santilli

**Abstract:** In the first paper of this series we have introduced the isotopies of the differential calculus and of Newton's equations of motion. In this second paper we used these results to construct the isotopies of classical and quantum mechanics. In this third paper we apply the preceding results for the construction of the isotopies of the symplectic and Riemannian geometries. The primary motivation is that, in their conventional formulation, these geometries are local-differential. As such, they are only valid for the exterior dynamical problem of point-like test bodies moving in the homogeneous and isotropic vacuum. The isotopies of the symplectic and Riemannian geometries result instead to be valid for the interior dynamical problem of extended and deformable test bodies moving within inhomogeneous and anisotropic physical media with conventional local-differential and variationally self-adjoint as well as nonlocal-integral and variationally nonselfadjoint resistive forces. In this paper we show that the isotopic geometries preserve all original axioms to such an extent that they coincide at the abstract level with the conventional geometries.

### P. R. Sharma, M. Gaur\* and Y. N. Gaur\*\*

**Abstract:** Unsteady laminar flow of a non-Darcian, isotropic, incompressible fluid through a duct filled with porous material is investigated, taking three different types of ducts viz. circular, elliptical and triangular cross-sections. The aim of the present investigation is that the drag on the walls of the duct is developed directly from the flux without solving the velocity fields. The expressions of velocity field, flux and drag per unit length are derived.

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